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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,318	10/28/2003	Jorge Guillermo Milke-Rojo	130699	4851
7590 04/22/2005			EXAMINER	
Dean D. Small Armstrong Teasdale LLP Suite 2600 One Metropolitan Square St. Louis, MO 63102			ZEC, FILIP	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,318

Applicant(s)

MILKE-ROJO ET AL.

Examiner

Filip Zec

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment, see pages 2-4, filed 2/17/2005, with respect to the rejection(s) of claim(s) 1-24 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,098,408 to Levinson et al. and under U.S. Patent 5,940,784 to El-Husayni, has been fully considered but is not persuasive.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-8, 10-14 and 16-22 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 6,098,408 to Levinson et al. Looking at FIG. 4, one notices the teachings claimed by the applicant, namely a temperature regulator (48) for an X-ray device (22, FIG. 1; col 1, line 25), comprising a controller (60), which receives data from the temperature sensor (54), determines whether the temperature should be raised or lowered (col 7, lines 30-42) and switches (using the voltage driver 110, FIG. 5) the voltage/current contact in the solid state (col 4, line 55) thermoelectric device (30), comprising a positive and a negative mode (48, 50, FIG. 3) directly connected to a voltage source (col 5, lines 60-61). An external cooling device, a heat sink, is connected to the system removing the thermal energy from the thermoelectric device (32). Per applicant's amendment to claim 1 and 16, Levinson teaches that reversing the direction of

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current reverses the direction of heat pumping, thereby accomplishing the same function as reversing the voltage contact (col 3, lines 9-13).

1. Claims 1-3, 5-7, 16-19 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,940,784 to El-Husayni. Looking at FIG. 3A and 3B, one notices the teachings claimed by the applicant, namely a temperature regulator, comprising a controller (64), which receives data from the temperature sensor (18 and 46, FIG. 1A), determines whether the temperature should be raised or lowered and switches the voltage/current contact in the solid state (32 and 54, FIG. 1A) thermoelectric device, comprising a positive and a negative mode (30, 50, FIG. 2) directly connected to a voltage source (60). An external cooling device, a liquid cooling system, is connected to the system removing the thermal energy from the thermoelectric device (40). Per applicant's amendment to claim 1 and 16, El-Husayni teaches that by reversing the current DC power supply, one reverses the direction of heat pumping, thereby accomplishing the same function as reversing the voltage contact (col 6, lines 58-65).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,098,408 to Levinson et al. Levinson discloses applicant's basic inventive concept, a temperature regulator for an X-ray device, substantially as claimed with the exception of stating

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the temperature range of 25-35°C at which the device will be kept under. However, Levinson teaches a table into which the user is able to input the temperature range data at which the device will be kept. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Levinson, by specifying the temperature range of 25-35°C at which the device will be kept in order to preserve the energy of the refrigerating device since the normal room temperature is approximately 25-35°C.

4. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,098,408 to Levinson et al., in view of U.S. Patent 6,370,881 to Maydanich. Levinson discloses applicant's basic inventive concept, a temperature regulator for an X-ray device, substantially as claimed with the exception of using a liquid external heat exchange device for removing thermal energy from the system. Maydanich shows using a liquid cooling system as a secondary cooling system to be old in the temperature regulating art (58, FIG. 2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made from the teaching of Maydanich to modify the system of Levinson, by using a liquid cooling system as a secondary cooling system in order to improve the quantity of heat energy removed. Also, since the liquid cooling system would require the use of a pump/condenser/evaporator circuit, it would be obvious to have the system away from the X-ray device, in order to prevent possible corrosion defects on the pipes circulating the refrigerant.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Filip Zec whose telephone number is (571) 272-4815. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on (571) 272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Filip Zec  
Examiner  
Art Unit 3744

  
**CHERYL TYLER**  
**SUPERVISORY PATENT EXAMINER**

FZ